



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,824	02/08/2001	Waichi C. Lo	12630ROUS02U	5733
626	7590	07/08/2004	EXAMINER	
NORTEL NETWORKS LIMITED P. O. BOX 3511, STATION C OTTAWA, ON K1Y 4H7 CANADA			BAYARD, DJENANE M	
		ART UNIT	PAPER NUMBER	2141
DATE MAILED: 07/08/2004				

3

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/778,824	LO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Djenane M Bayard	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 08 February 2001.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-24 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 15-22 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application No. 2003/0187934 to Nishikawa et al.

a. As per claim 15, Nishikawa et al teaches a controller for a communications network comprising: resource conservation means for automatically maintaining the bandwidth allocation of paths between two service nodes in the network at a level that is adjusted dynamically in accordance with a current traffic utilization level of the paths; and resource deployment means for automatically redistributing network resources between the paths (See page 2, paragraph [0021 and 0043]).

b. As per claim 16, Nishikawa et al teaches wherein said resource conservation means is operable to allocate additional bandwidth to a path automatically whenever the current traffic utilization level on said path exceeds a high threshold (See page 3, paragraph [0045]).

c. As per claim 17, Nishikawa et al teaches wherein said resource conservation means is operable to reduce the bandwidth allocated to a path automatically whenever the current traffic utilization level on said path is below a low threshold. (See page 4, paragraph [0056]).

- d. As per claim 18, Nishikawa et al teaches wherein said resource conservation means is operable to reduce bandwidth allocated to said path automatically in decrements that are smaller than a previous increment of additional bandwidth allocated to said path (See page 4, paragraph [0061]).
- e. As per claim 19, Nishikawa et al teaches wherein said resource deployment means is operable to create a new path automatically between said two service nodes if the bandwidth allocation of said path cannot be increased (See page 4, paragraph [0065]).
- f. As per claim 20, Nishikawa et al teaches wherein said resource deployment means is operable to manage connections automatically in a facility layer based on new demands in a service layer (See page 3, paragraph [0043]).
- g. As per claim 21, Nishikawa et al teaches a network controller comprising a plurality of the controllers arranged in a hierarchical control structure, whereby at least one of said controllers is operable to control the operation of the other controllers (See page 1, paragraph [0015]).
- h. As per claim 22, Nishikawa et al teaches wherein the communications network is a packet-based services network (See page 3, paragraph [0043]).

***Claim Rejections - 35 USC § 103***

- 3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2002/0018477 to Katz in view of U.S. Patent No. 6,687,228 to Fichou et al.

a. As per claim 1, Katz et al teaches a controller for managing bandwidth in a communications network, the controller comprising: a service controller; a service interface between the service controller and a service network element in the network for managing paths (See page 2, paragraph [0054]). However, Katz et al teaches a facility interface between the service controller and a transport network element in the network for managing connections the service controller being operable to set up paths automatically and dynamically balance the bandwidth utilization among a plurality of selected paths in response to current traffic requirements on the plurality of selected paths.

Fichou et al teaches a method and system in a packet switching network for dynamically sharing the bandwidth of a virtual path connection among different types of connection. Furthermore, Fichou et al teaches a facility interface between the service controller and a transport network element in the network for managing connections (See col. 17, lines 17-20) the service controller being operable to set up paths automatically and dynamically balance the bandwidth utilization among a plurality of selected paths in response to current traffic requirements on the plurality of selected paths (See col. 17, lines 11-5)

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate teaches a facility interface between the service controller and a transport network element in the network for managing connections the service controller being operable to set up paths automatically and dynamically balance the bandwidth utilization among a plurality of selected paths in response to current traffic requirements on the plurality of selected paths as taught by Fichou et al in the claimed invention of Katz et al in order to determine the overall performance of the end to end service at the backbone/access network (See col. 4, lines 6-9).

b. As per claim 2, Katz et al teaches wherein the service controller is further operable to establish connections automatically in response current traffic requirements on the said plurality

of selected paths (See page 3, paragraph [0067])

c. As per claim 11, Katz et al teaches the claimed invention as described above. However, Katz fails to teach wherein the node comprising a service node and a facility node (See col. 5, lines 25-36).

Fichou et al teaches wherein the node comprising a service node and a facility node.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the node comprising a service node and a facility node as taught by Katz et al in the claimed invention of Fichou et al in order to provide a better management of the bandwidth within the backbone network (See col. 3, lines 54-55).

5. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2002/0018477 to Katz in view of U.S. Patent No. 6,687,228 to Fichou et al. as applied to claim 2 above, and further in view of U.S. Patent No. 6,578,076 to Putzolu.

a. As per claim 3, Katz et al in view of Fichou et al teaches the claimed invention as described above. However, Katz et al in view of Fichou fails to teach wherein the service controller is further operable to set up the paths automatically in accordance with user-defined policies.

Putzolu teaches a policy-based network management system using dynamic policy generation. Furthermore, Putzolu teaches wherein the service controller is further operable to set up the paths automatically in accordance with user-defined policies (See col. 8, lines 1-19).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the service controller is further operable to set up the paths automatically in accordance with user-defined policies as taught by Putzolu in the claimed invention of Katz et al in view of Fichou et al in order for network resources to be used in a more automated fashion (See col. 1, lines 30-31).

b. As per claim 4, Katz et al in view of Fichou et al teaches the claimed invention as

described above. However, Katz et al in view of Fichou fails to teach wherein the service controller comprises a database for storing the user-defined policies.

Putzolu teaches wherein the service controller comprises a database for storing the user-defined policies.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the service controller comprises a database for storing the user-defined policies as taught by Putzolu in order to for network resources to be used in a more automated fashion (See col. 1, lines 30-31).

c. As per claim 5, Katz et al teaches wherein the service controller further comprises algorithm plug-ins for selectively changing aspects of the service controller functionality (See page 5, paragraph [0113]).

6. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2002/0018477 to Katz in view of U.S. Patent No. 6,687,228 to Fichou et al. further in view of U.S. Patent No. 6,578,076 to Putzolu as applied to claim 5 above, and further in view of and further in view of U.S. Patent No. 6,628,670 to Galand et al.

a. As per claim 6, Katz et al in view of Fichou et al further in view of Putzolu teaches the claimed invention as described above. However, Katz et al in view of Fichou further in view of Putzolu fails to teach wherein the service controller further comprises: a metrics database; and data filters, the service controller further operable to provide metrics monitoring in accordance with the metrics database information and data filters.

Galand et al teaches a method and system for sharing reserved bandwidth between several dependent connections in high speed packet switching networks. Furthermore, Galand et al teaches wherein the service controller further comprises: a metrics database; and data filters, the service controller further operable to provide metrics monitoring in accordance with the metrics database information and data filters (See col. 12, lines 7-49).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the service controller further comprises: a metrics database; and data filters, the service controller further operable to provide metrics monitoring in accordance with the metrics database information and data filters as taught by Galand et al in the claimed invention of Katz et al in view of Fichou et al further in view of Putzolu in order to represent network connections with different characteristics (See col. 12, lines 7-8).

b. As per claim 7, Katz et al in view of Fichou et al teaches the claimed invention as described above. However, Katz et al in view of Fichou fails to teach a management interface for maintaining said user-defined policies.

Putzolu teaches a management interface for maintaining said user-defined policies (See col. 3, lines 1-2)

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate a management interface for maintaining said user-defined policies as taught by Putzolu in the claimed invention of Katz et al in view of Fichou et al in order to improve policy based network management system (See col. 2, lines 29-30).

c. As per claim 8, Katz et al in view of Fichou et al teaches the claimed invention as described above. However, Katz et al in view of Fichou fails to teach wherein said management interface is operable to obtain audit trails and explanations of every action performed, and obtain recommendations from the service controller on actions to be performed.

Putzolu teaches wherein said management interface is operable to obtain audit trails and explanations of every action performed, and obtain recommendations from the service controller on actions to be performed.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein said management interface is operable to obtain audit trails and explanations of every action performed, and obtain recommendations from the service controller on actions to be performed as taught by Putzolu et al in the claimed invention of Katz et al in view of Fichou et al in order to improve policy based network management system (See col. 2, lines 29-30).

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2002/0018477 to Katz in view of U.S. Patent No. 6,687,228 to Fichou et al. as applied to claim 2 above, and further in view of U.S. Patent No. 5,508,909 to Maxwell et al.

a. As per claim 9, Katz et al in view of Fichou et al teaches the claimed invention as described above. However, Katz et al in view of Fichou fails to teach an intra-layer interface for communication with another controller.

Maxwell et al teaches an interface to allow communication with another controller (See col. 2, lines 5-10).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate an interface to allow communication with another controller as taught by Maxwell et al in the claimed invention of Katz et al in view of Fichou in order to communicate with other controllers (See col.2, lines 5-10).

8. Claim 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2002/0018477 to Katz in view of U.S. Patent No. 6,687,228 to Fichou et al as applied to claim 1 above and further in view of U.S. Patent Application No. 2003/0187934 to Nishikawa et al.

a. As per claim 10, Katz et al in view of Fichou et al teaches the claimed invention as described above. However, Katz et al in view of Fichou fails to teach a network controller comprising a plurality of the controllers arranged in a hierarchical control structure, whereby at least one of said controllers is operable to control the operation of the other controllers.

Nishikawa et al teaches a network controller comprising a plurality of the controllers arranged in a hierarchical control structure, whereby at least one of said controllers is operable to control the operation of the other controllers (See page 1, paragraph [0010-0015]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate a network controller comprising a plurality of the controllers arranged in a hierarchical control structure, whereby at least one of said controllers is operable to control the operation of the other controllers as taught by Nishikawa in the claimed invention of Katz et al in view of Fichou in order to enable transparent communication (See page 1, paragraph [0009]).

14. As per claim 14, Katz et al in view of Fichou et al teaches the claimed invention as described above. However, Katz et al in view of Fichou fails to teach wherein the paths are layer-3 paths and the connections are layer-1 connections.

Nishikawa et al teaches wherein the paths are layer-3 paths and the connections are layer-1 connections (See page 1, paragraph [0004]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate teaches wherein the paths are layer-3 paths and the connections are layer-1 connections as taught by Nishikawa in the claimed invention of Katz et al in view of Fichou et al in order to interconnect distant networks (See page 1, paragraph [0002]).

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2002/0018477 to Katz in view of U.S. Patent No. 6,687,228 to Fichou et al. as applied to claim 11 above, and further in view of U.S. Patent No. 6,199,137 to Aguilar et al.

a. As per claim 12, Katz et al in view of Fichou et al teaches the claimed invention as described above. However, Katz et al in view of Fichou fails to teach wherein the service node comprises a core router.

Aguilar et al teaches a method and device for controlling data flow through an IO controller. Furthermore, Aguilar et al teaches wherein the service node comprises a core router (See col. 2, lines 9-14).

It would have been obvious to one with ordinary skill in the art at the time the invention

Art Unit: 2141

Was made to incorporate wherein the service node comprises a core router as taught by Aguilar et al in the claimed invention of Katz et al in view of Fichou et al in order to provide a connection to an IO interface (See col. 1, lines 20-21).

10. Claim 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2002/0018477 to Katz in view of U.S. Patent No. 6,687,228 to Fichou et al. further in view of U.S. Patent No. 6,199,137 to Aguilar et al as applied to claim 11 above, and further in view of U.S. Patent Application No. 2004/0057375 to Shiragaki et al.

a. As per claim 13, Katz et al in view of Fichou et al further in view of Aguilar teaches the claimed invention as described above. However, Katz et al in view of Fichou further in view of Aguilar fails to teach wherein the facility node comprises an optical transport switch.

Shiragaki et al teaches wherein the facility node comprises an optical transport switch (See page 4, paragraph [0043]).

It would have been obvious to one with ordinary skill in the art at the time this invention was made to incorporate wherein the facility node comprises an optical transport switch as taught by Shiragaki et al in the claimed invention of Katz et al in view of Fichou and further in view of Aguilar in order to prevent link failure between nodes (See page 4, paragraph [0043]).

11. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2003/0187934 to Nishikawa et al in view of U.S. Patent No. 6,324,184 to Hou et al.

a. As per claim 23, Nishikawa et al teaches the claimed invention as described above. However, Nishikawa et al fails to teach wherein the packet-based services network is an IP network.

Art Unit: 2141

Hou et al teaches a dynamic bandwidth allocation for a communication network. Furthermore, Hou et al teaches wherein the packet-based services network is an IP network (See col. 1, lines 10-20).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate wherein the packet-based services network is an IP network as taught by Hou et al into the claimed invention of Nishikawa et al in order to communicate data and information (See col. 1, lines 14-20).

11. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2003/0187934 to Nishikawa et al in view of U.S. Patent No. 6,724,722 to Wang et al.

a. As per claim 24, Nishikawa et al teaches the claimed invention as described above. However, Nishikawa et al fails to teach wherein the paths are MPLS paths.

Wang et al teaches MPLS paths (See col. 1, lines 61-64).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the MPLS paths into the claimed invention of Nishikawa et al in order to manage traffic flow in an information network (See col. 1, lines 13-14).

### *Conclusion*

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,738,819 to Li et al teaches a dynamic admission control for IP networks.

U.S. Patent No. 6,141,351 to Goodnow et al teaches a system for providing broader bandwidth.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Djenane M Bayard whose telephone number is (703) 305-6606. The examiner can normally be reached on 7:00 AM-4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (703) 305-4003. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Djenane Bayard

June 22, 2004



RUPAL DHARIA  
SUPERVISORY PATENT EXAMINER